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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/364,256	07/30/1999	EDDIE SINES	79.955	9195

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ASSOCIATE COUNSEL PATENTS
CODE 1008.2
NAVAL RESEARCH LABORATORY
4555 OVERLOOK AVENUE SW
WASHINGTON, DC 20375-5325

EXAMINER	
PEREZ, GUILLERMO	
ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 02/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/364,256	SINES, EDDIE
	Examiner	Art Unit
	Guillermo Perez	2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai (JP 402290138A) in view of Fitter (U. S. Pat. 4,897,626).

Kanai discloses a method for cooling electrical devices having layers of electrically conductive material (10) wound onto a laminated core (2) comprising the steps of:

placing one or more flat, thermally conductive strips (11) having a first and a second end, in contact with the heat generating component (10) across its entire length, and capable of conducting heat from between layers of the electrically conductive material (10). Kanai discloses that the strip (11) extends through at least some of the layers of electrically conductive material (10) wound on the core (2) with both the first end and the second end extending outside of an area covered by the layers of electrically conducting material (10) and core (2). Kanai also discloses the conduction of heat from the layers of electriclally conductive material through the first and second ends of the thermally conductive material (11) thereby cooling the electrical device (see abstract).

However, Kanai does not disclose that the thermally conductive strips are of a non-metallic material.

Fitter discloses that the thermally conductive strips are of a non-metallic material (column 2, lines 22-30). Fitter's invention has the purpose of improving thermal conductivity in the coils.

It would have been obvious at the time the invention was made to modify the method for cooling electrical devices of Kanai and provide it with the non-metallic strips of Fitter for the purpose of improving thermal conductivity in the coils.

2. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai in view of Fitter, and further in view of Herron (U. S. Pat. No. 3, 671, 787).

Kanai and Fitter disclose a method for cooling electrical devices as described on item 1 above. However, neither Kanai nor Fitter disclose the steps of: placing a thermally conductive strip having a first and second end between predetermined laminations of the core. Neither Kanai nor Fitter disclose that the first and second ends of the thermally conductive strip extend outside of the core.

Herron discloses placing a thermally conductive strip (12, 13) having a first and second end between predetermined laminations (11) of the core. Herron also discloses that the first and second ends of the thermally conductive strip (12) extend outside of the core. Herron's invention have the purpose of improving cooling efficiency in the dynamoelectric device.

It would have been obvious at the time the invention was made to modify the method for cooling electrical devices of Kanai and Fitter and provide it with the cooling

steps disclosed by Herron for the purpose of improving cooling efficiency in the dynamoelectric device.

3. Claims 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herron in view of Herr et al. (U. S. Pat. 4,266,152) and further of Kanai in view of Jarczynski (U. S. Pat. No. 5,091,666).

Herron discloses an electric motor (figure 1) comprising:

one or more laminations of a metallic material (11) forming an outer casing of the electric motor. Herron discloses one or more circular, flat, thermally conductive disks (12,13) positioned between the laminations (11) for conducting heat generated by an electrical current flowing within the motor through the conductive disks.

However, Herron does not disclose that the disks are non-metallic disks. Herron does not disclose an electrically conductive material wound in a plurality of layers within the laminations so as to form an electric field that drives an armature when an electrical current is applied with thermally conductive strips placed between pre-selected layers of the electrically conductive material. Herron does not disclose that the thermally conductive strip extends outside of the area covered by the electrically conductive material. Herron does not disclose means for conducting heat at the end of the conductive disk and strips.

Herr et al. discloses non-metallic materials or metallic materials can be interchangeably used to build the stator (column 5, lines 11-19) for the purpose of improving the cooling performance in the stator structure.

Kanai discloses an electrically conductive material (10) wound in a plurality of layers within the laminations so as to form an electric field that drives an armature when an electrical current is applied with thermally conductive strips (11) placed between pre-selected layers of the electrically conductive material (10). Kanai discloses that the thermally conductive strip (11) extends outside of the area covered by the electrically conductive material (10). Kanai's invention have the purpose of dissipating heat from the coils created during operation.

Jarczynski discloses means (46, 26, 28) for conducting heat at the end of the conductive disk and strips (36). Jarczynski discloses one or more thermocoolers (26,28,46) adjacent to and touching the outer casing of the motor (24) to conduct heat from the metallic laminations (34) forming the outer casing of the motor. Jarczynski's invention have the purpose of removing heat created in the motor structure towards the atmosphere.

It would have been obvious at the time the invention was made to modify the electric motor of Herron and provide it with the non-metallic thermally conductive stator material of Herr et al. It would have also been obvious to provide the electric motor of Herron with the thermally conductive strips disclosed by Kanai, and the means for conducting heat disclosed by Jarczynski for the purpose of improving cooling performance in the stator structure, dissipating heat from the coils, and removing heat created in the motor structure towards the atmosphere.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the thermally conductive strips in the stator core or in the

windings of a non-metallic material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

Applicant's arguments with respect to claims 18-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-

5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
January 31, 2002

Nicholas Ponomarenko
Primary Examiner
Technology Center 2800